Preliminary Bridge - Electronic Deliverable Format

Sections:

1. General:

This document outlines the ProjectWise folder structure to be used for for Preliminary Bridge related work.

Also addressed is the format and key features of deliverable CAD files.

These guidelines apply to both in house (DOT) and consultant products.

2. Folder Structure

The folder structure to be used in the BRPrelim project subfolder in ProjectWise is as follows (Folders in bold, file names in italics).

The intent is to limit the 'root' of the BRPrelim folder to deliverables with working/support files under the subfolder for each contributing entity. The contributing entity is responsible for locking their .str file in the root directory to prevent editing of the delivered product.

(Note: To lock a file in ProjectWise, right click the file, then select Change State>Set Final Status. To unlock, select Change State>Remove Final Status).

BRPrelim

99003999_DOT.str	DOT .str file deliverable. See .str file section below.
99003999_XYZCRP.str	Consultant *XYZCRP*.str file deliverable.
Concept_Submittal	As required. Concept pdf/doc deliverables (Concept statement/drawings, etc.) for non-B0 project concept development.

B1_Submittal As required. B1 .pdf/doc deliverables (TSL/Easement limits drawings, etc.)

TSL_990115.pdf	TSL/Situation Plan
TSL_990215.pdf	
EASE_Limits.pdf	

B2_Submittal As required. B2 .pdf/doc deliverables (Culvert, repair plan drawings, etc.)

630215.pdf	Repair design plan
P_99_208+00.pdf	Pipe culvert plat plan
PrelimSchedule_99003999.xls	Pipe schedule

DOT

REF_99003999_DOT.dgn DOT REF file. See .str file section below.

Calcs

Docs

Support (optional, suggested for general catch-all repository)

<other folders as required>

XYZCRP

REF_*99003999_XYZCRP.dgn* Consultant REF file. See .str file section below.

Manifest_*XYZCRP*.txt Optional but recommended manifest file.

<folder structure similar to DOT above>

It will be the responsibility of the contributing entity to maintain previous versions of deliverables as required. The contributing entity shall clearly label ancillary deliverable products (hydraulic/hydrology calculations, permit application documents) and provide an appropriate folder structure.

A manifest file in .txt format placed in the root of the entities folder is recommended, particularly for consultant submittals. This file would include a listing of deliverables and their location in the folder structure. A revision/version tracking section in this file is recommended.

3. **.str File Structure / REF File**

A. **.str File**

Each entity contributing to the B1/B2 deliverable shall provide a .str file tagged accordingly (*99003999_DOT.str, 99003999_XYZCRP.str, etc.).*

The .str file(s) shall only include the following models:

Structures - Structures model

TSL_CC_DDDD - Individual TSL sheet models

P_CC_STA - Individual pipe plat plan sheet models

CCDDDDs001 - Individual repair sheet models

Structures_Stage X - Stage construct structures model

If a .str file is provided by an entity, a Structures model shall be provided. The Structures model will only contain those features elements provided by the entity. For example, if consultant XYZCRP's contribution to the B1 is flowage easement limits as a result of a hydraulic study, the Structures model would include the easement limits shown on accompanying easement TSL models. An empty Structures model is acceptable if there are no applicable elements/features.

B. **REF File**

As noted in following sections ALL supporting control files used for B1/B2 development (.dsn, .sur etc.) shall be attached to the respective model(s) as reference files. Generally these files shall be located in their respective ProjectWise folders (DESIGN for the .dsn file, etc.).

On projects where **the final versions of these control files are not available or in the proper location and beyond the control of the entity** the respective contributory models shall be copied into the REF_ file, and these REF_ models attached to the Structures/TSL sheet models.

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Control files are considered the files containing the primary planimetrics that the design is based upon. These are generally the Design alignment/lane layout, topography/utilities, environmental mapping, etc.

The REF file is intended to be representative of the design at the time of B1 completion. Completed/finished contributory files shall be accessed/used for subsequent design processes.

Examples of models included in the REF file are as follows:

99069030.sur <Field_TOPO_020> Survey topography

99069030.dsn <ML_0050_ML069> Road design planimetrics

99069030.wet.dgn <Wetlands> Wetlands delineation

Other models beyond the control files, and not available in ProjectWise at standard locations, can be included in the REF file as desired to facilitate transfer of information used to develop the design. Examples include edited contours, right-of-way limits, etc.

4. **Structures Model Requirements**

The purpose of the Structures model is to provide planimetric (XY) location of structure features for use by other offices in project development. The Structures model is primarily a B1/B2 product used on new construction and replacement projects. However, for major repair and stream stabilization projects where planimetric data needs to be provided for use by other offices, a Structures model may be required.

The structures model in the .str file deliverable shall only include those elements for features attributable to Preliminary Bridge activities as follows:

Pipe culvert layout

RCB culvert layout

Bridge layout

Revetment/stream stabilization layout

Generally these elements will have level names starting with 'brg'.

The elements in the structures model should be limited to the planimetrics of the proposed structures. Control lines (CL structure/substructure, etc.) are acceptable. Annotation on appropriate bridge levels is acceptable/desirable. Working lines, alternates, etc. shall not be included.

Control files shall be attached as references as defined in section 3.B. above. Additional files may be attached as references for convenience (contours, aerial photography, etc.) The attached reference files should be reviewed for appropriateness relative to the final product.

A. **Bridge / RCB Features**

Features generally provided are as follows:

- Design alignments w/ station tics (max. interval 500') (brgPreStationCenterLine)
  Included to provide monument point(s) for design elements relative to project control.

- Existing structures (brgPreStructureExisting/brgRemovals)

   Standard practice to enhance structure planimetrics provided by survey, based on as-built plans, as required to illustrate critical elements (footing extent, etc.).

- Proposed structure (brgPreStructureNew).

   Structure centerlines (brgPreStructureCenterLines) (substructure, etc.)

- Revetment, Grading lines (brgPreGradingNew),

- Easement requirements (rowCondEasement) w/ notation as reqired (brgTxtNormal)

- Structure information block (brgTxtNormal).

B.   Pipe Culvert Features

Features generally provided are as follows:

- Design alignments w/ station tics (max. interval 500') (brgPreStationCenterLine)
- Existing structures (brgPreStructureExisting/brgRemovals)

   As required for extensions or replacements.

- Proposed structure (brgPreStructureNew).

   Structure centerlines (brgPreStructureCenterLines)

- Easement requirements (rowCondEasement) w/ notation as reqired (brgTxtNormal)
- Structure layout data (brgTxtNormal) (brgDimensionLines)

5.   TSL Model Requirements

This section addresses the requirements for the plan view components of the TSL (B1) and repair plan (B2) products.

Refer to Commentary Section C3.2.9 of the Preliminary Bridge Design Guidelines, Situation Plan Layout Guidelines, for typical features and organization of the TSL/Situation Plan.

The sheet border containing plan views (Situation Plan, Site Plan) shall be moved/rotated so that planimetric elements shown on the sheet are in their correct XY location.

All elements visible in the 'printed' (.pdf) product shall be copied into the model. Elements should be masked/edited as required for clarity/presentation. It is recommended that masking using the brgTextBlockOut level (element priority, fill, etc.) or equal be used as much as practicable.

Attached reference files shall be disabled (not displayed) for printing and .str delivery.

Control files shall be attached as references as defined in section 3.B. above. Additional files may be attached as references for convenience (contours, aerial photography, etc.) The attached reference files should be reviewed for appropriateness relative to the final product.

6.   Culvert Plat Plan Model Requirements

This section addresses the requirements for the plan view components of the pipe culvert plat plan (B2) product.

Preparation of a Plat Plan model is similar to a TSL model (border rotated, elements copied into model, reference files attached, etc.).

For culverts constructed in stages over multiple contracts, separate Plat Plans will be provided for each Stage/Contract. The model/.pdf name will be tagged with a Stage designation (ex. P_99_102+00_S1, P_99_102+00_S3 for a culvert built during Stage 1 and 3).

7.   Stage Construct Model Requirements

For structures (culverts/bridges) that will be stage constructed (separate designs/contracts) a Stage Construct structures model shall be provided.

The Structures model representing the ultimate/completed structure will be provided per Sect. 4 above.

A Stage Construct structures model will be provided for each separate stage of a structure's construction. All stage-constructed structures modified under a given Stage will be shown in the model for that stage.

The intent of the Stage Construct structures model is to provide planimetrics for the TSL/Plat sheets that reflect conditions as of the time of construction (construction stage). As such the Stage Construct structures model differs from the Structures model in that it may contain roadway design and topography elements in addition to bridge features. These elements will be edited / modified as required to reflect the construction stage. The extent of elements contained in the Stage Construct model only need to encompass the area shown on TSL/Plat sheets.

Structure staging will be represented using the brgPreStructureExisting, brgPreStructureNew, and brgPreStructureFuture levels. Grading staging will use brgPreGroundExisting and brgPreGradingNew levels.

Revisions:

12/10/15 – Initial Document